



**ON A NEW BDELLOID ROTIFER, *CALLIDINA*
VESICULARIS.**

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PLATE 18.

IN September, 1904, Mr. Bryce sent me some samples of moss, in order to show me *Callidina aculeata*, Milne, and *C. vorax*, Janson, two species with which I was not then acquainted. I was able to find examples of both of them. In the moss which contained *C. aculeata* I found also several specimens of a Bdelloid quite distinct from any species known to me. The animal was carefully studied, as far as the limited number of examples permitted. Mr. Bryce was immediately notified of the occurrence of the species in his moss, in the hope that he also would be able to study it. Unfortunately he was unable to find it, and up to the present has not detected a single example, nor have I, on further examination of the material, been any more fortunate.

We have therefore to depend solely on the observations made on the original three specimens.

As the species is a very well-marked one, easily distinguished from all other Bdelloids of which we have sufficient descriptions, and Mr. Bryce has not himself seen it, I venture to make a description of it.

***Callidina vesicularis*, n.sp.**

Specific characters.—Large, hyaline; teeth, 6/5; vibratile tags, six pairs, very large, round or pyriform; first foot-joint with two blunt processes, spurs small, separated by wide interspace.

General description.—Length, 325 μ . Diameter of trunk, 106 μ ; of corona, 86 μ . Build somewhat like *C. quadricornifera*, Milne, to which the processes on the foot further suggest relationship, but head and foot relatively longer. It further differs conspicuously in the numerous teeth, a feature only found hitherto among the pellet-making and [symbiotic species of *Callidina*. The vibratile tags differ from anything I have seen in Bdelloids. As a rule the tags are inconspicuous and difficult to see, so that, although I always look for them, I cannot claim to have observed them in all the species known to me. In all cases when they have been seen they are narrow, usually with straight parallel sides, but occasionally spindle-shaped. In this species they are conspicuous, and obtrude themselves on the attention without being specially looked for. They are nearly round, and look like little inflated bladders. The name is taken from this, the most striking character.

The corona is less in diameter than the broadest part of the trunk, and has large discs on which central papillae were seen, though no setae could be distinguished.

The discs are separated by a space about two-thirds of the diameter of one disc. The lateral folds of the upper lip are prominent, and stand some little distance apart.

The broad central portion of the trunk is longitudinally plicate, the folds few, broad, the dorsal faint, the lateral deep. The jaws bear six strong teeth on one side and five on the other, and many fine transverse striae. The voluminous stomach has very thick walls, which are filled with globules of moderate size and pale yellow colour. The foot is of four segments. The first bears a pair of processes, similar to those of *C. quadricornifera*, Milne. In that species the processes are usually acute, and directed backward. In this they are blunt and point forward.

The spurs are of moderate size, divergent, acuminate, obtuse, decurved, separated by an interspace greater than the length of the spur.

The toes were not clearly seen. They were rarely and only momentarily displayed. From the few glimpses I got I do not think they were symbiotic, but this is the one important point which was not satisfactorily made out. The jaws have not the broad border which I find in all the recognised symbiotic species.

The symbiotic foot, in which the toes are united to form a perforated disc, is unmistakable in those species where it reaches its fullest development, e.g. *C. russeola* and *C. scarlatina*; in some others it is rather obscure.

Recently I have been able to watch *C. scarlatina* hatch out from the egg. In the newly hatched young three toes could be traced. The two lobes of the disc of the adult are probably reminiscent of the two principal (ventral) toes. Zelinka himself figures *C. symbiotica* with two distinct toes, and I have often seen it with three, in this case also probably newly hatched.

Of the habits of this new species there is nothing important to tell. It creeps steadily and feeds sedately, like *C. quadricornifera*. Only one of the three examples found was ready to feed. From the others I was able to confirm the observations of the teeth, tags, spurs, and foot-bosses.

The yolk-mass had the usual eight nuclei; no egg or foetus was seen. The species is so well characterised that there is no other with which it need be minutely compared to prevent confusion. In the genus *Callidina* a higher tooth-formula than 3/3 is only found among the pellet-makers and the symbiotic species. *C. vesicularis* has no affinity with the former group, in which numerous teeth is the rule. From the known species of the symbiotic group it is distinguished by the processes on the foot and by the bladder-like vibratile tags.

It seems to me to have most affinity with *C. quadricornifera* and *C. habita*, but even from these it is widely separated by the characters of the teeth and the tags.

Habitat.—Among moss growing on a wall at Upper Sheringham, Norfolk, August, 1904 (D. Bryce).

EXPLANATION OF PLATE 18.

- Fig. 1. *Callidina vesicularis*, n.sp. Dorsal view of animal, feeding.
,, 2. The same, ventral, creeping.
,, 3. ,, ,, jaw with five teeth.
,, 4. ,, ,, lateral view of foot, to show processes.
,, 5. ,, ,, spurs.